Claims:

1   1.   A distributed search method in a peer-to-peer computer network comprising a

2   resource requestor, at least one search broker, and at least one resource provider where said at

3   least one search broker has a registration database for said at least one resource provider, said

4   method comprising:

5   sending a resource query from said resource requestor; to a resource broker;

6   locating a resource provider on the network matching said resource query;

7   sending said resource query from said resource broker to said resource provider matching

8   said resource query;

9   processing said resource query at said resource provider matching said resource query;

10   and

11   returning search results from said resource provider matching said resource query to said

12   resource requestor.

1   2.   The method of Claim 2 further comprising locating one or more search brokers in

2   said computer network.

1   3.   The method of Claim 2 further comprising forwarding a resource description from

2   said resource provider to said resource broker.

1   4.   The method of Claim 3 further comprising ranking said search results at said

2   resource requestor.

1   5.   The method of Claim 4 wherein said resource description comprises types of

2   resources.

1   6.   A computer program product for use in conjunction with a distributed network

2   comprising a resource requestor, at least one search broker and at least one resource provider, the

3   computer program product comprising a computer readable storage medium and a computer

4   program mechanism embedded therein, the computer program mechanism comprising:

5   first instructions for sending a resource query executable by said resource requestor;

6   second instructions executable by said search broker for registering said resource

7   provider;

8   third instructions executable by said search broker for finding said resource provider

9   matching said resource query;

10   fourth instructions executable by said search broker for sending said resource query to

11   said resource provider; and

12   fifth instructions executable by said resource provider for finding resources available

13   matching said resource query.

1   7.   The computer program product of Claim 6 further comprising

2   sixth instructions executable by said resource provider for sending search results to said

3   resource requestor.

1   8.   The computer program product of Claim 7 further comprising

2   seventh instructions executable by said resource provider for finding search brokers in

3   said computer network.

1   9.   The computer program product of Claim 8 further comprising

2   eighth instructions executable by said resource provider for obtaining a resource

3   description.

1   10.   The computer program product of Claim 6 further comprising

2   ninth instructions executable by said resource provider for sending a resource query to a

3   computer coupled to said resource provider.

1   11.   A resource search method for a computer network having a plurality of computers

2   comprising a resource requestor, at least one search broker, and at least one resource provider,

3   said method comprising:

4   registering said resource provider with said search broker;

5   sending a resource query from said resource requestor to said search broker;

6   sending said resource query from said search broker to said resource provider;

7   searching said resource provider for local resources based on said resource query; and

8   sending search results from said resource provider to said resource requestor.

1   12.   The search method of Claim 11 further comprising

2   sending said resource query from said resource provider to a computer coupled to said

3   resource provider.

1   13.   The search method of Claim 11 further comprising

2   generating at said search broker a registration database for said resource provider.

1   14.   The search method of Claim 13 further comprising

2   determining whether said resource provider contains a resource that matches said

3   resource query.

1   15.   The search method of Claim 14, wherein said resource query comprises

2   a keyword.

1   16.   The search method of Claim 15 further comprising selecting said resource

2   provider based on said keyword of said resource query.

1   17.   A computer program product for use in conjunction with a distributed network

2   comprising a resource requestor, at least one search broker and at least one resource provider, the

3   computer program product comprising a computer readable storage medium and a computer

4   program mechanism embedded therein, the computer program mechanism comprising:

5   first instructions for registering said resource provider with said search broker;

6   second instructions for sending a resource query from said resource requestor to said

7   search broker;

8   third instructions for sending said resource query from said search broker to said resource

9   provider;

10   fourth instructions for searching said resource provider for local resources based on said

11   resource query; and

12   fifth instructions for sending search results from said resource provider to said resource

13   requestor.

1   18.   The computer program product of Claim 17 further comprising sixth instructions

2 for sending said resource query from said resource provider to a computer coupled to said

3 resource provider.

1   19.   The computer program product of Claim 17 further comprising

2   sixth instructions for generating at said search broker a registration database for said

3   resource provider.

1   20.   The computer program product of Claim 19 further comprising

2   seventh instructions for determining whether said resource provider contains a resource

3   matching said resource query.

1   21.   The computer program product of Claim 20 wherein said resource query

2 comprises a keyword.

1   22.   The computer program product of Claim 21 further comprising eighth instructions

2 for selecting said resource provider based on said keyword of said resource query.

1   23.   The computer program product of Claim 22 further comprising ninth instructions

2 for ranking said search results at said resource requestor.

1   24.   A computer network having a plurality of computers comprising a resource

2 requestor, at least one search broker, and at least one resource provider, each computer on said

3 computer network comprising an application programming interface (API), said API comprising;

4   a resource-finding method executable by said resource requestor, said resource-finding

5 method comprising a resource query;

6   a resource-provider-finding method executable by said search broker for finding said

7 resource provider matching said resource query,

8   a resource-provider-registering method executable by said search broker for registering

9 said resource provider; and

10   a local-resource-finding method executable by said resource provider for finding

11   resources available on said resource provider.

1   25.   The computer network of Claim 24 wherein said API further comprising:

2   a search broker finding method executable by said resource provider for finding said

3   search broker.

1   26.   A resource search method for a computer network having computers comprising a

2   resource requestor, a plurality of search brokers, and a plurality of resource providers, said

3   method comprising:

4   registering said plurality of resource providers with said plurality of search brokers;

5   sending a resource query from said resource requestor to at least a subset of said plurality

6   of search brokers;

7   sending said resource query from said subset of said plurality of search brokers to at least

8   a subset of said plurality of resource providers;

9   searching for local resources based on said resource query; and

10   sending search results from said subset of said plurality of resource providers to said

11   resource requestor.

1   27.   The search method of Claim 26 further comprising

2   sending said resource query from a resource provider to a computer coupled to said

3   resource provider.

1   28.   The search method of Claim 26 further comprising

2   generating at said plurality of search brokers registration databases for said plurality of

3   resource providers.

1   29.   The search method of Claim 28 further comprising

2   determining whether said subset of said plurality of resource providers contains a

3   resource that matches said resource query.

1   30.   The search method of Claim 29, wherein said resource query comprises

2   a keyword.

1   31.   The search-method of Claim 30 further comprising selecting a resource provider

2   based on said keyword of said resource query.

1   32.   A computer program product for use in conjunction with a distributed network

2   comprising a resource requestor, a plurality of search brokers and a plurality of resource

3   providers, the computer program product comprising a computer readable storage medium and a

4   computer program mechanism embedded therein, the computer program mechanism comprising:

5   first instructions for registering said plurality of resource providers with said plurality of

6   search brokers;

7   second instructions for sending a resource query from said resource requestor to at least a

8   subset of said plurality of search brokers;

9   third instructions for sending said resource query from said subset of said plurality of

10   search brokers to at least a subset of said plurality of resource providers;

11   fourth instructions for searching for local resources based on said resource query; and

12   fifth instructions for sending search results from said subset of said plurality of resource

13   providers to said resource requestor.

1   33.   The computer program product of Claim 32 further comprising sixth instructions

2   for sending said resource query from a resource provider to a computer coupled to said resource

3   provider.

1   34.   The computer program product of Claim 32 further comprising

2   sixth instructions for generating at said plurality of search brokers registration databases

3   for said plurality of resource providers.

1   35.   The computer program product of Claim 34 further comprising

2   seventh instructions for determining whether said subset of said plurality of resource

3   providers contains a resource that matches said resource query.

1   36.   The computer program product of Claim 35 wherein said resource query

2   comprises a keyword.

1   37.   The computer program product of Claim 36 further comprising eighth instructions

2   for selecting a resource provider based on said keyword of said resource query.